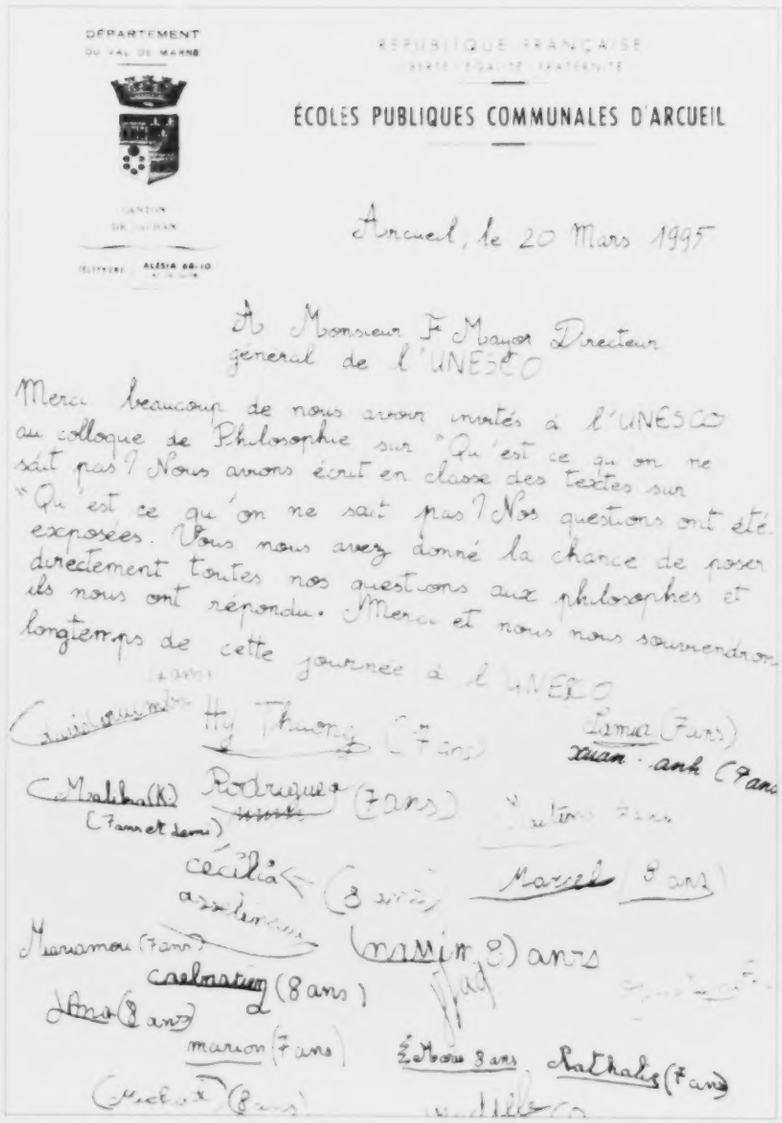
UNESCO SOURCES

N° 68 - APRIL 1995

FIRST UNESCO PHILOSOPHY FORUM

WHAT WE DO NOT KNOW

LETTERS TO THE EDITOR



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ÉCOLES PUBLIQUES COMMUNALES D'ARCUEIL

Arcueil, le 20 Mars 1995

À Monsieur F. Mayor Directeur
général de l'UNESCO

Merci beaucoup de nous avoir invités à l'UNESCO
au colloque de Philosophie sur "Qu'est ce qu'on ne
sait pas ? Nous avons écrit en classe des textes sur
"Qu'est ce qu'on ne sait pas ? Nos questions ont été
exposées. Vous nous avez donné la chance de poser
directement toutes nos questions aux philosophes et
ils nous ont répondu. Merci et nous nous souviendrons
longtemps de cette journée à l'UNESCO

Arcueil (France), 20 March 1995

To Mr F. Mayor
Director-General of UNESCO

• • • Thank you so much for having invited us to UNESCO for the philosophy colloquium on "What we do not know". In our class, we have written about what we don't know. Our questions were exhibited at the colloquium. You gave us the chance to directly ask our questions to the philosophers and they responded to them. Thank you. We will remember this day at UNESCO for a long time.

* * *

WHY NOT HAITI?

Jorge Ivan Espinal
UNESCO office
Port-au-Prince (Haiti)

• • • January's issue (*Sources*, no 65) focusing on Africa was done in a simple and interesting manner which conveyed a sense of daily life on this continent: education-related data, activities to prevent the spread of AIDS, democratisation and consolidation of peace.

This way of presenting socio-economic and political problems might also be used in writing articles about Haiti – given the cultural and educational impact which will eventually result from the country's ongoing process of restoring democracy.

A REMARKABLE RECOVERY

Jean Estrella
Printer
Barcelonette (France)

• • • Your article on education in Chile, entitled "Everybody's business" (*Sources*, no 66), gave me a start. What? With less than five years after the end of an obscurant dictatorship (that's the least we can say) 96% of children are enrolled in school! It's hard to believe that such a recovery could be made in such short time. The article goes on to refer to some "*very uneven results*" which are not too clear. Are you referring to poor quality of instruction?

In any case, bravo to UNESCO for trying to help these children whose families have suffered for such a long time.

AN AUTHENTIC PICTURE

Evelyn Sheridan
Far East Magazine
Navan (Ireland)

• • • Thank you for keeping us in touch with world issues through UNESCO *Sources*. As always, it continues to be an informative publication which is very valuable to us in our efforts to present an authentic picture of our world.

SCHOLAR AND CITIZEN

Philosophy is out, or so we're led to believe. It is somewhat surprising then that the book topping the best seller lists of several countries at the moment is a work of popularized philosophy ("Sophie's World" by the Norwegian author Jostein Gaarder). And such were the numbers that turned up for the first of UNESCO's Philosophy Forums (14-17 March) that it was a case of standing room only.

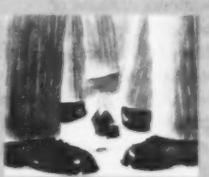
"What we do not know" was the subject attacked at this Forum by some 40 of the world's most renowned scientists and thinkers from all disciplines. Their initial answer: almost everything. Our ignorance is virtually immeasurable. We have made but a few steps along a road that is infinitely long. As renowned French anthropologist Claude Levi-Strauss once wrote, the more science progresses, the more we realize that we will never come to the end of it.

The immediate consequence of this is that since there are but "a few scholars who know everything about almost nothing", to quote Nobel laureat for medicine Jean Dausset, we cannot expect them to answer the essential questions that each person asks themselves. It's unlikely, for example, that science will ever be able to explain whether the universe is the fruit of hazard or the creation of a "grand architect".

Then, science could never, and indeed must never, rule the world. For a start, today's scientific knowledge is often redundant tomorrow. It is therefore precarious knowledge, limited and also controversial: one of the peculiarities of scientific hypothesis is that it divides the scientists themselves. And although these latter are certainly better placed than most common mortals to explain the ins and outs of the choices before us, they are certainly no better qualified to make those choices for us. Science feeds politics, in the very broad sense of the term, but cannot replace it; the scholar enlightens the citizen but does not take from that citizen. And, happily, it is the citizen's choice that prevails.

René LEFORT

The infinitely long road to knowledge.



Women want a bigger say in the media.

Education: the key to development

Cover photo: © Comstock

CONTENTS

PAGE AND SCREEN 4

PEOPLE 5

FOCUS

Pages 6 to 16

WHAT WE DO NOT KNOW

PLANET:

Communication
• **GETTING IN ON THE ACTION** 18

Education
• **DOLLARS AND SENSE** 20

Physical heritage
• **ROCK ART BE DAMMED** 22

Environment
• **AN EYE ON THE ENVIRONMENT** 23

LOOKING AHEAD 24

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BOOKS

ALBUM OF CHINESE CONTEMPORARY OIL PAINTINGS

Chinese interest in oil painting can be traced back to the 18th century with the influence of

Jesuit painters such as Giuseppe Castiglione. However, experimentation in the medium has generally been discouraged until recently. Contemporary Chinese painters have not only rediscovered the art but endowed this 'alien' medium with a Chinese aesthetic vision.

The book presents 182 representations of exceptional quality which clearly illustrate that the Chinese have gone beyond merely imitating traditional European techniques and subject matter. Through the broad selection of artists, we sense the excitement of these artists as they explore new possibilities with a fresh but disciplined approach.

● ***Album of Chinese Contemporary Oil Paintings***. *forward by Han Suyin. China Translation and Publishing Corporation/ UNESCO. 1994. 182pp. 400 FF.*

THE STORY OF A GRAND DESIGN - UNESCO 1946-1995

By tracing UNESCO's activities throughout the past half-century, this book illustrates the evolution of the Organization's approach and objectives, from rebuilding the educational, scientific and cultural life of those countries devasted during World War II to new energies directed towards democratization since the fall of the Berlin Wall.

Written in a clear and concise manner, this chronicle also recounts the contributions of some of the great names in literature and science who have played diverse roles in UNESCO's history.

● ***The Story of a Grand Design - UNESCO 1946-1993***. *by Michel Conil Lacoste. UNESCO. 1994. 507 pp. 175 FF.*

THE CULTURAL DIMENSION OF DEVELOPMENT - TOWARDS A PRACTICAL APPROACH

Adopted in 1982 at an international conference organized by UNESCO, the Mexico City Declaration clearly states that development *"strategies should always be devised in light of the historical, social and cultural context of each society"*. More than ten years later, this point has been widely recognized but difficult to put into practice. New approaches and means are needed to ensure that development is founded on the experiences of the people involved and their willingness to move towards aspired economic and social changes.

How can we develop and synchronize international cooperation in this area? How can the work of aid organizations be reinforced, reformed and expanded? Based on current field experience, this book analyzes the cultural interactions in the development process and draws new routes intended to facilitate the work for all those involved - from large international organizations to the grassroots.

● ***The Cultural Dimension of Development - Towards a Practical Approach***. *Culture and development series. UNESCO. 1995. 229 pp., 85 FF.*

NATIONAL EXAMINATIONS: DESIGN, PROCEDURES AND REPORTING

The dramatic expansion of secondary education around the world in the past 50 years has brought new issues to the forefront. After a brief historical review of the development of public examinations, this book considers the administrative, technical and policy problems in conducting national examinations, certification of high school graduates and selection for higher education. The booklet offers a cross-national perspective of both the problems and possible solutions in this area.

● ***National examinations: design, procedures and reporting***. *by John P. Keeves. UNESCO: International Institute for Educational Planning. 1994. 108 pp., 50 FF.*

PERIODICALS

NATURE AND RESOURCES

Partnerships in geoscience.

About 90% of our energy comes from the top few kilometres of the planet's surface, yet relatively little is done to protect it. The best soils, taking hundreds to thousands of years to form from rock debris, are being wasted at such a fast rate that they might be considered non-renewable resources. Rivers are being dammed without fully understanding the effects on

ocean flows. Geothermal energy could be used to heat entire cities, yet, once again, experimentation in the field remains limited.

To address these issues, the International Geological Correlation Programme (IGPC) was created in 1972 to promote exchanges in ideas, techniques and information between geoscientists around the world and to assist them in their training and research. Articles in this issue (Vol. 30, Nos. 3 & 4, 1994) stress the role of earth sciences in society while reporting on the IGPC's activities: discovering and monitoring resources from phosphate deposits in Morocco to mineral deposits in Central Africa; analyzing climatic changes and geological processes for a better understanding of the Earth's dramatic evolution.

THE UNESCO COURIER

With the end of the century approaching, our civilization seems to be on the verge of replacing letters and ideograms with images. April's edition of *The Courier* returns to the sources of writing.

The earliest written characters were found on clay tablets from Mesopotamia dating back to the third millenium B.C. - more than 30,000 years after prehistoric people began drawing on cave walls.

This edition recounts the odyssey of writing: the first cuneiforms, Chinese writing which is the only one to remain in use for 35 centuries, pictograms of pre-Columbian America and stylized calligraphy from Islamic countries. This issue also explores Occidental writing which has been used as both an instrument of power and a path to liberty. A longstanding privilege of ruling classes, writing has just slowly moved within grasp of people from poor backgrounds. Today, there still aren't any industrialized countries which can boast that all of its citizens are literate.

This issue opens with an interview with American author Ernest Gaines.

Publications and periodicals are on sale at the UNESCO Bookshop, or by order from UNESCO Publishing, 7 place de Fontenoy, 75352 Paris 07 SP, and in Member States through national distributors. Catalogue on request.

MUHAMMED YUNUS: ON TOUR WITH GRAMEEN BANK

I used to teach elegant theories while people were dying in the streets. So, I gave money out of my pocket and tried to arrange credit for them," says Dr Muhammed Yunus. *"Lend money to the poor," the bankers said. 'You're crazy!'"*

Those smug faces must now be green with envy. Grameen Bank, founded by Yunus in 1983, boasts of a 98% rate of return on loans to Bangladesh's rural poor. With 1,042 branches serving almost half of the country's villages, the bank is loaning over $500 million a year to about two million clients, 94% of whom are women. Yunus visited UNESCO on 3 March to meet with experts anxious to learn from the bank's success.

"We work on good faith and the understanding that the smallest amount of money can alleviate tremendous suffering," says Yunus. Small collectivities are organized which approve, guarantee and monitor loans for micro-enterprises. The bank is *"not based on charity but sound business results"*, says Yunus explaining why it lends mostly to women. *"When a woman becomes a wage-earner, she will feed and dress her children better and send them to school – a more long term effect than when you loan to men who want to satisfy themselves."*

A practical but difficult idea to sell. *"When we offer the loans to the women, their first response is always the same, 'No! What do I need with money? Talk to my husband.'"* But by crossing gender lines, the loans have created some *"explosive situations"*. Yunus stresses that *"the women must protect their money from their husbands but at the same time protect their marriages."* He advocates a quiet but firm approach. *"For example, we gently explain to the husband that we cannot loan money to one person to build a house on someone else's land. So, he must transfer the land under his wife's name."*

With this diplomacy, Yunus insists that Grameen has not had trouble with Bangladesh's religious fundamentalists except for some stoning incidents which he says were caused by misdirected anger surrounding the controversial writer Taslima Nasreen.

While some question Yunus' tactics, notably the *"moral"* pressure by collectivities in getting women to repay their loans, he is attracting international attention. A rising star on the development scene? *"My role now is not so much as a do-er but as a preacher,"* he says. An apt description for Yunus who believes that *"the elimination of poverty is possible,"* adding that *"we can do it and put a date on it"*.

Amy OTCHET

OUASSILA SI SABER: REPORTING ON A TABOO

The armed groups are looking for me. They have my name, my photo... I am 31 years old. I am not married because I wouldn't want to leave behind a widower or, worse, orphans."

Ouassila Si Saber is a working journalist and activist in the Assembly of Algerian Democratic Women. She reports on the rape and murder of Algerian women by men she describes as Islamic terrorists. On International Women's Day, 8 March, she took part in a UNESCO roundtable in keeping her *"promise"* to these women and herself to denounce the crimes so that *"no one can say, 'I didn't know'"*.

According to the national police, 512 women were assassinated in 1994, many of whom were also raped. But Si Saber thinks the numbers are much higher. *"Everything is hidden behind this 'marriage of procurement'"*, she says. *"Terrorists are going around to villages kidnapping women and girls. They rape them and then usually slit their throats."*

The expression, *"marriage of procurement"* is a translation of an Arab term referring to a contract used in some Muslim countries permitting a man and a widow or divorced woman to live together for a set amount of time under certain circumstances. In Algeria, Si Saber says, terrorists have perverted the practice into a pretext for rape *"in the name of Allah"*.

She describes a pit in Eastern Algeria where about 200 women were left *"half-crazy, pregnant and bearing the scars of torture."* For Si Saber, *"this is collective rape – not any kind of 'marriage'"*.

Treating these crimes as a *"taboo subject"*, Si Saber says that the government has turned a blind eye to these women. *"Their legal status is vague... Because they're 'still living', they don't have the right to financial assistance offered to the families of victims of terrorism. The women who are left pregnant are helped just until they give birth. But they don't qualify for social assistance because their children are born out of wedlock."* Making matters worse, she says, they are often rejected by their families out of shame and fear of reprisals by terrorists.

CATHARSIS

Investigating these crimes since 1991, Si Saber is now trying to launch an international campaign to stop them. *"Rape is being used as a weapon of war in the same way as it was used in Bosnia and Rwanda,"* she says. *"But no one ever talks about Algeria. Why? Because there isn't enough information? Or is there a deliberate black-out?"* Si Saber is willing to provide the information needed.

Her work also enables these women to externalize their trauma; by talking with them, she offers a chance for catharsis.

Algerians have been killed for far less, but Si Saber refuses to leave her country or her job. *"I'm faced with all kinds of pressure – familial, professional and psychological. My family fears for me and thinks that I have 'erred a little' in foregoing a domestic life. But above all, there is this 24-hour anguish. Everyday, on the way to work, I tell myself: 'today, they are going to get me.'"*

A.O.

● In his first official visit to UNESCO on 13 March, **PRESIDENT FIDEL CASTRO** of Cuba drew a dark picture of the world's economic and social state. *"The world's panorama does not stimulate much optimism. We are confronted globally by a political, social, economic and environmental crisis without precedent in the history of mankind... The growth of the world's population, the expansion of poverty and the deterioration of the environment are today global problems that require joint solutions. The alternative is clearer each day. Either we all save ourselves together, or we all sink together, rich and poor."* Mr Castro called on the United Nations to contribute to a *"true solidarity among nations"*.

natasha Lundi 22 octobre 1994
19 St-Ange
7 ans

Ce qu'on ne sait pas ?

on ne sait pas.

FIN

NATASHA, 7, FROM A SCHOOL IN THE PARIS SUBURBS WRITES: "WHAT DON'T WE KNOW? WE DON'T KNOW. THE END."

FIRST UNESCO PHILOSOPHY FORUM
WHAT WE DO NOT KNOW

A class of young pupils from a school in a Paris suburb was asked to think about "what we do not know". One of them replied, logically, "we don't know", and then added for good measure "the end". The about 40 participants at the first of UNESCO's Philosophy Forums (March 14-17) were more eloquent on the issue, but came to much the same conclusion. This month's Focus looks at the "raison d'être" for the forums and presents highlights from the first meeting. These deal with communication and scientific knowledge (pp.9, 10, 11); cosmology (p.12), paleontology (p.13), AIDS (p.14), economy and history (pp.15, 16). All, in their way, look at "what we do not know" - the "we" including the scholars as well as the broader public. And all stress that for as far as we can see this question will continue to be asked. For the more we know, the more we know that we know so very little (p. 8).

During a round table discussion on the right to philosophy, organized by UNESCO in 1991, French philosopher Jacques Derrida said that the creation of the Organization UNESCO was, in itself, a philosophical event. Wasn't its very existence founded on the idea that only the free flow of ideas could protect us from the dark forces of dogmatism and tyranny?

Nearly 50 years after the launching of this first programme of philosophy, aimed at making the discipline more widely accessible, the UNESCO Philosophy Forum builds on the same principle. With the failures of science, most visible today with regard to ethical or environmental problems, philosophical reflection can contribute not only by encouraging the sharing of discoveries but also by fostering interaction between various knowledge systems.

First of all, there are very real political stakes involved. Democracy, at both nation and global levels, demands that each enlightened citizen be informed on the state of knowledge and non-knowledge (or ignorance) as well as the contingent ethical dimensions.

The stakes are also scientific. When new fields of ignorance are constantly appearing, when the application or non-application of a discovery becomes more and more vital for the future of humanity, it is urgent and necessary to open a dialogue between the different disciplines and modes of investigation.

This dialogue can lead in turn to new discoveries but also go farther by redefining the status of science: we cannot indefinitely avoid ethical questions. This is where the role of UNESCO most obviously imposes itself. The perfect meeting place, it provides us with a platform upon which to question ourselves about the knowledge of tomorrow, the form it will take and the stakes involved. As an international institution, UNESCO can initiate pedagogical action among a broad public and increase awareness among decision-makers.

UNIVERSAL DIALOGUE

"What we do not know" was the obvious title for the forum. It re-establishes equality and, building an intelligent community, it opens the possibility of universal dialogue.

"What we do not know" takes a reverse approach to the essentially philosophical question: *"What do I know?"* to which philosophy consistently answers *"nothing"*, as though in astonishment at knowing so much.

From the limits of knowledge which constantly fluctuate as knowledge is being produced to the place where the various disciplines form, there lies the realm of what we do not know. In this terra incognita, everything blends together: what we no longer know and what we do not yet know, that which we refuse to know or that which we dream of knowing, that which we catch a glimpse of in the chiaroscuro or that which a few know but others do not - all of which, once again, poses the question of sharing.

Asking ourselves *"What we do not know"* troubles our certitudes, disrupts established orders. It explores infinite possibilities, tests limits, manifests hope. It challenges fear and superstition - even the most erudite - which lurk along the frontiers.

Yet, the question is also humble. It renounces power and abolishes the dissymmetry between those who speak and those who listen. What I don't know, perhaps you may know. What we don't know reunites us in a mutual desire to find out.

Finally, touching on the ironic, the question foreshadows and calls forth a common language. The Philosophy Forum would like to take place with the oracles of audacity, humility and a certain blissful irony which philosophy can sometimes offer.

Ayyam SUREAU

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THE ROAD TO GENETIC MEDICINE

By blending tenacity, curiosity and a fair amount of luck, simple experiments have led to some extraordinary achievements from organ transplants to genetics.

Doubt is supposed to be essential in any research. But there's one thing I have no doubt about – I'm almost totally ignorant. And this really gets me angry. Because there was a time when a person could master all the scientific knowledge there was around. Not any more. Nowadays only scientists know everything – about almost nothing. And I'm one of them.

I've had the good fortune to witness, over half a century, the unfolding of an amazing, unexpected, unimaginable scientific and human saga. The development of a masterful science which has upset all predictions, invaded our lives, threatened our environment and maybe even the survival of the human species itself. But also a development which has changed our ideas, our philosophy about life as well as our metaphysical conceptions. This is the adventure I've embarked upon.

I became a blood specialist to earn a living. Joining the armed forces in the 1940s, I got to know a lot about the two systems of red corpuscle blood groups - the ABO and the Rhesus. A system of groups is a collection of antigens (A antigen, B antigen and Rhesus antigen, etc.) which are chemical substances attached to the surface of red corpuscles. Immune defences (white corpuscles, antibodies etc.) can spot the antigens and, if they belong to another group, eventually destroy them.

THE ROLE OF CHANCE

With this understanding, I started to wonder whether there were other antigen systems which would only attach to white corpuscles. So I did an experiment. I put a blood donor's white corpuscles in contact with the serum (the liquid part of blood) of an ill person. I saw with my naked eyes huge clumps of white corpuscles form. The antibodies in the diseased serum had identified the antigens on the surface of the corpuscles, attached themselves to them and caused the clumps to form. This is how the Human Leukocyte Antigens (HLA) system was discovered. (Leukocyte is another word for white corpuscle.)

This was a controlled experiment intended to prove a hypothesis - not a chance observation. But chance did play a part. The patient whose serum was used had previously had several transfusions and so had generated antibodies to fight the HLA antigens of each of the donors. As it happened, the person from whom the white corpuscles were taken for the experiment had the same antigens as one of the ill person's former blood donors. So the ill person had the right antibodies, which made the experiment work.

To get around the big problem of chance, the law of numbers can be used

PROFESSOR JEAN DAUSSET.

and then a statistical analysis done, as long as you have the means to do so and the nature of the experiment permits it. If the first experiment to discover the HLA system had failed, it would have been possible to repeat it until the clumping of corpuscles occurred.

We then had to show that the HLA antigens weren't only carried by the white corpuscles but by all cells and tissue. We did this by setting up, with Felix Rapaport, an American colleague, some simple experiments. We also performed hundreds of small skin grafts on volunteeers to see if they took, while analyzing the volunteer's HLA antigens.

The lesson from these experiments is clear. They must be done in as simple conditions as possible to make interpretation easier. You also have to trust your luck, even as you minimize the role of chance by repeating the experiment as often as possible.

The discovery of the HLA system led to organ transplants, just as the discovery of red corpuscles led to blood transfusion. But the research must go on. There are still too many transplant and graft rejections because the huge variety of HLA antigens makes it hard to match donor and patient exactly.

We still don't know how to make a patient's body accept donor tissue completely. When we find that out, we'll be able to do better grafts and perhaps begin using the organs of animals in people. Then the chronic shortage of human donors can be reduced or even eliminated.

TROUBLESOME GENES

Beyond preventive medicine, there lies the promise of predictive medicine. This aims to detect the genes which make a person predisposed to different diseases. The classic example, which gave rise to the idea of predictive medicine, is the painful spinal disease, ankylosing spondylitis. We still don't know its cause, but we have seen that the disease occurs 600 times more often in people who have the HLA B27 antigen. Many other ailments are also linked, though less closely, with the HLA system.

As research into human genetics races forward, we shall one day be able to take steps to deal with troublesome genes which make some people predisposed to certain diseases. Perhaps this will eventually change the role of doctors. Instead of treating sick patients, perhaps they will act as counsellors instructing people on ways in which to guard their health. And maybe we'll be able to stretch the average life expectancy to the present biological limit of human age which is around 100 to 110 years. Who knows? The only thing I'm sure of is that all ignorance serves as a constraint and all knowledge offers us liberation.

Jean DAUSSET

Professor Dausset was awarded the Nobel Prize in 1980 for his contribution to medicine. He is currently the president of the Foundation Jean Dausset in Paris.

GETTING CLOSER ALL THE TIME

When it comes to reading about science, beware! Most of what you read will someday be proven false.

Nature, one of the most highly respected scientific journals in the world, is commonly regarded as a reliable source of authentic science. In a sense that is true. But it is also true that the research reports that now appear in *Nature* will almost always turn out to be incorrect in some respect. I should quickly add that exactly the same is true of all the other scientific journals in the world.

There is nothing remarkable about that. Truth in science is not an absolute entity, but it is relative. British philosopher Karl Popper, who died last year, taught us that the only hypotheses worth considering are those that in principle can be proved false. That does not mean they are false - their authors go to a great deal of trouble to establish the opposite - but merely that they are falsifiable; they can be right or wrong, according to the circumstances.

A PROCESS OF REFINEMENT

What this means is that all theories evolve in the course of time. They are repeatedly refined. The questions we ask of nature are continually made more penetrating. The answers we expect are similarly more subtle. There is a strong case for saying that this process of refinement constitutes progress in science. Researchers are forever asking questions their predecessors did not have the wit to ask.

This is the particular sense in which it is possible to guess at what is not yet known. The obvious historical example is that of Newton's mechanics. Isaac Newton postulated what he called "laws" to describe the motion of material objects, and his successors in the 19th century expected that the same rules would also explain the motion of objects exposed both to electricity and magnetism. That was possible, but only in the most artifical way, requiring an all pervading aether with infinitesimally small density and infinitely large mechanical strength. Only Einstein's Special Theory of Relativity allowed physics to escape from that trap.

There is a contemporary problem with some of the same characteristics. The universe in which we live is supposed to have begun with a huge explosion between 10 and 20 billion years ago. This Big Bang universe has several advantages as a theory, but also one big drawback: to account for the more or less uniform distribution of matter in the universe, it is necessary to suppose that, soon after the original explosion, there was a very rapid expansion.

That expansion in turn requires that the total mass of the universe must be just enough to allow the Universe to keep on expanding, slowing down as it goes. That requires a total mass of matter in the universe between 20 and 25 times the mass of the matter locked up in galaxies that can be seen with telescopes. That is a huge discrepancy. It is an understatement to call it the problem of the missing mass.

The search for this missing mass has been going on now for about 25 years. All kinds of suggestions have been made as where in the universe it might be hidden. But, so far, the search has been unsuccessful. There is no sign of where the missing mass may be. As time goes on, the search for the missing mass comes to seem more and more like the search for the luminiferous aether at the end of the 19th century.

CHANGING VISIONS

That is only one of the reasons for believing that the contemporary view of the origin of the universe is, at best, incomplete. There are many others. Some stars in our own galaxy are older than the age recently attributed to the universe as a whole by the most accurate measurements yet of the speed of expansion. And there remains the problem of the objects called "quasi-stellar objcts", or "quasars", which are extraordinarily powerful sources of radiation at a great distance in the universe. The contemporary and conventional view of how the universe evolved has no place for them.

Consider also how technique has changed our vision of the world. Before 1940, for example, the only way to look beyond Earth was via optical telescopes. Now we have a whole new range of devices from radio telescopes to X-ray and gamma ray satellites that chart the sky at wavelengths outside the visible.

As with cosmology, most other fields of science will have to be revised. Such revisions, when they come about may be relatively small. They could also be radical. That is the sense in which I believe that everything published in the scientific journals, such as *Nature*, is incorrect, perhaps by being incomplete or even downright erroneous in the light of data that have not yet come to light. I believe it worth stressing this feature of the scientific literature (which does not mean that the literature is less interesting or important) just because of the tendancy towards triumphalism that runs throughout the scientific world from time to time and which can spill over into the wider community. There is widespread confidence, for example, that the unravelling of the human genetic code will solve all manner of genetic and even behavioural problems. I believe this to be probably untrue.

The past 500 years have been a remarkably exciting period of discovery. It is tempting to say that there cannot be much left to discover. It is tempting to say that 500 years ago we knew nothing. We began with infinity in front of us. But if you substract 500 years from infinity, you still have infinity.

Conclusion: science is just beginning.

John MADDOX

Sir John Maddox is Editor of the magazine Nature.

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BIRDS OF A FEATHER...?

Philosophers and journalists have much in common and much to learn from each other. And yet, the media firmly keeps the philosopher at arm's length.

To exert any influence today on public opinion, philosophers - like everyone from fellow intellectuals to working-class politicians - need access to the media. Yet in many countries, including the United States, the "Not Welcome" sign goes up quickly on the media's door when it's rumored that philosophers are approaching.

Why? Why do the media ignore professional philosophers? It's astigmatic, not to mention rude towards natural colleagues. Besides reporters, philosophers remain the only featherless bipeds smug enough to think "Truth Warrior" when they fill out "Occupation" sections on customs forms.

There's further common ground. Philosophers, like journalists, can't bear to describe reality in the language of science or mathematics, because they can't handle the equations or fear the other disciplines will put them out of business. And philosophers, like reporters, tend to disagree with everybody.

So wouldn't you expect a little reciprocal interest between species? Shouldn't journalists cover and promote their hair-splitting, nit-picking colleagues as much as they cover their party-hopping, source-swapping selves? Yet their eyelids droop at the thought. Even the editors of book-review sections find it hard to give space to books by professional philosophers. Understanding why is crucial if philosophers are ever to escape their media ghetto.

NOTHING LIKE A SENTENCE

For one thing, philosophers generally refuse to entertain while expressing their views. Great writers know that books should begin with lines full of promise, like Proust's *"For a long time, I used to go to bed early"*, or full of trickery, like Calvino's, *"You are about to begin reading Italo Calvino's If on a winter's night a traveler"*, or full of twist, like Beckett's *"The sun shone, having no alternative, on the nothing new"*.

Great directors, for all of moviedom's techno-wizardry, have always known that nothing lasts like a sentence, as in Walter Huston's gently sensible remark, *"Love has got to stop some place short of suicide"*, to his wife in *"Dodsworth"*, that classic of literate filmmaking.

Philosophers, alas, favor opening lines like this bellringer from a 1992 tome: *"During the academic sessions 1990-1991 and 1991-92, I had the good fortune to hold a British Academy Research Readership and thus at least to make a start on a project which, in my original application to the Academy, I had confidently undertaken to complete within the period of the Readership if my application was successful"*. You see the problem. One simply can wait to see how it all turns out.

Then there's the obstacle that most people think wisdom lies in keeping distinctions to a manageable few, the way hunters keep the deer population down. Philosophers, au contraire, believe that wisdom consists in multiplying distinctions into unmanageable herds, prompting some to war over definitions of "Truth" or "Meaning" so remote from ordinary life that they ought to be given proper names, like "Harry" or "Sally".

Finally, many professional philosophers employ diction and syntax so mannered and stilted that you imagine no native speakers of the tongue are extant.

Nonetheless, put it all together and the media's virtual ban on philosophers remains a disgrace. The truth is that most would-be heavy thinkers in the media blather about truth, objectivity, justice, metaphor without the slightest appreciation for the intricacies these concepts pose. Take the philosopher Nelson Goodman's wonderful old description of metaphor as *"an affair between a predicate with a past and an object that yields while pretending."*

You'd have to hold a pre-panel seminar to explain the condensed brilliance of that metaphor to an audience outside philosophy. But it would be worth holding.

PAID TO LET THE TRAIN GO AND THE PHONE RING

Stripped of their sins, forced to be their best selves, philosophers promoted by the media might win appreciative audiences among ordinary citizens. Facing classic philosophical problems all the time in their own lives, such citizens can't pursue them because there's always a train to catch or a call to take. Professional philosophers, at their best, are the only people paid to let the train go and the phone ring. Ordinary folk appreciate that. Watching the pros take puzzles to the next steps everyone else has avoided is as edifying as watching travelogues to unvisited countries.

A first step might be getting newspapers to review philosophy books as regularly as they cover the latest accounts of murder, scandal and government intrigue. Excellent books await them, scoops ready to roll.

In a flipside irony though, the first journalists to storm the philosophy sections will find no books in "philosophy of journalism", an area of thought that, in America, still amounts to occasionally quoting Walter Lippmann.

As badly blinkered as their fellow "Truth Warriors," professional philosophers largely fail to recognize that journalism, more than science, illustrates how we as a society solve the epistemological problems they spend their lives studying.

Journalism should be the great laboratory of philosophy, just as philosophy should be the intellectual conscience of journalism. Why the two are barely on speaking terms would make a good subject for a seminar - or a newspaper story - or a talk show.

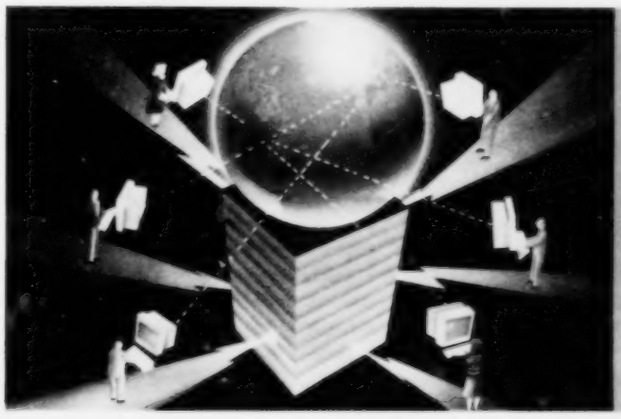
Carlin ROMANO

Carlin Romano, literary critic of the Philadelphia Inquirer, has taught philosophy at Yale, Yeshiva University and the University of Pennsylvania.

FRANKENSTEIN OR PYGMALION ?

"Internet has transformed the physical citizens of a modern society into 'the disembodied netizens of a postmodern cyber community' as some hackers like to say."

In 1963 Arthur C. Clarke published "Dial F for Frankenstein", in which he imagined the following scenario: On the 31st of January 1974, the last communications satellite is launched to achieve a full interconnection of the international telephone system. The day after, all the telephones in the world ring at once. It's the horrible cry of an artifical supermind, born out of the global network of 80 billion individual switches in the world's automatic exchanges. Thirty years later, Internet is actually a much more reassuring reality. A population of several million people interacts by means of the global network, forming the most educated intellectual community to appear on Earth - a veritable global academy.



INTERNET: TRANSFORMING SOCIETY IN WAYS WE CANNOT IMAGINE (Photo © The Image Bank/ Salom Krieger).

Internet is a completely new world about which we seem to know very little. We know what it is and that different possibilities for its use are being discovered literally every day. But what will be the effects of such a radical revolution in the way we handle information?

We could start by noting that as a synthesis of several rather innovative technologies, Internet is not only fostering the growth of knowledge but at the same time generating unprecedented forms of ignorance. This is not uncommon in the history of technology. Whenever radical change occurs in the way we handle knowledge, some individuals are left behind, uninstructed. The new technology makes the people who do master it suddenly aware of other domains of knowledge still to be explored.

What is truly remarkable in this case is the impressive scale of the phenomenon in question. Not only has Internet already enlarged our notion of illiteracy and produced new forms of cultural isolation and discrimination, it is also transforming our lives. This global network is constructing an electronic village and overhauling entire sectors of activity like communicating, writing, publishing, adverstising, selling, shopping, banking, teaching and learning.

Internet has transformed the physical citizens of a modern society into the *"disembodied netizens of a postmodern cyber community"*, as some hackers like to say. The jargon might be a bit extravagant, but the changes are almost tangible. Publicity has assumed an international scale, while privacy takes on an electronic dimension through our e-mail conversations. Good manners are evaluated on the basis of a social "netiquette". Civil rights concern the way in which personal information can be created and stored in databases, and then accessed and used through the network.

Crimes can range from electronic pornography to viruses, from illegal reproduction of software to the mishandling of electronic systems and illicit intrusion into them, from copyright infringement to electronic plagiarism.

One of the most pressing concerns is that knowledge may become fragmented as it is decentralized. Internet has developed in a chaotic, if dynamic way. Today it suffers from a regrettable lack of global organization, uniformity and strategic planning. While we entrust ever vaster regions of the human encyclopaedia to the global network, we are leaving Internet itself in a thoroughly anarchic state, at the risk that in a few decades organized knowledge will be lost in a labyrinth of millions of virtual repositories, and information will be as easy to find as a needle in a haystack.

"LIKE A NEW COUNTRY"

I am not advocating the creation of some international bureau for the management of Internet, a sort of digital Big Brother. Nor do I have any wish to see national organisms take control of our electronic new frontier. I'm suggesting that Internet be considered like a new country, with a growing population of millions of well educated citizens. As such it does not need a highway patrol, but rather an "infostructure" like a Virtual National Library System.

This could guarantee the reliability and integrity of the digital encyclopaedia; provide constant and nondiscriminatory access to it, thus guaranteeing a universal right to information. It could be used to deliver a continually updated map to the universe of thought; expand the numbers of primary, secondary and derivative resources available online, especially those that won't attract commercial operators. This structure would support and improve the methods and tools, whereby the encyclopaedia is converted into a digital domain, where networked information is stored, accessed, retrieved and manipulated.

Today we are giving the body of organized knowledge a new electronic life, and in so doing we are constructing the digital heritage of the next millennium. Depending on how we meet the challenge, future generations will consider us as either new Pygmalions or old Frankensteins.

Luciano FLORIDI

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TRIPPING WITH THE ASTRONOMERS

We can now imagine the universe's energies when it was one hundreth of a second old. Beyond that, things get hazy but that's no reason to stop piecing together nature's clues to the cosmos.

The universe that we contemplate at the end of the 20th century is dizzingly different from the one at the start, when it was confined to a collection of 100 billion stars, bound by gravity, stretching across some 90,000 light years, known as the Milky Way.

We now know that the universe has acquired a beginning. The majority of cosmologists think that the universe originated in an enormous explosion, the 'Big Bang', from an unimaginably small, hot, dense state. Then followed a cosmic evolution of some 15 billion years during which a vacuum filled with energy has given birth to matter which has progressively complexified to form galaxies, stars, planets, and human beings. The pace of accumulation of knowledge has been astonishing and exhilarating. But I think there is evidence to show that we may never be able to unlock all the secrets.

Astronomers are time travellers. Because it takes time for light to reach us, all astronomical objects are observed with some delay; we see the Sun as it was eight minutes ago, the nearest star as it was four years ago, the nearest galaxy similar to the Milky Way as it was two million years ago. Can we look all the way back to the moment of creation by building larger and larger telescopes? The answer: No.

The universe was so dense during its first 300,000 years, that light could not propagate, making the universe completely opaque. There is thus a natural barrier that our telescopes will never be able penetrate.

A MAGNIFICENT FEAT

Physicists have attempted to break through this barrier by using particle accelerators and mathematical equations. Before the year 300,000 the universe was so hot that galaxies, stars and planets could not exist, and matter was in the form of elementary particles whizzing around at enormous speeds. In fact, the early universe was an immense particle accelerator, and one could hope to learn about it by building gigantic particle accelerators which duplicate its conditions. The largest existing particle accelerators, such as the one at CERN in Geneva, with a diameter of several tens of kilometers can reach energies prevailing in the universe when it was only one hundredth of a second old. Already a magnificent feat. But to go further back in time, physicists have to resort to theory. They have been able to extrapolate back their equations to the infinitesimally small time of 10^{-43} after the Big Bang. We haven't been able to go further back because the universe was so dense that gravity, ordinarily negligible at the sub-atomic scale, becomes as important as the other electromagnetic and nuclear forces.

Einstein's theory of General Relativity describes well gravity when the other forces are negligible. Quantum Mechanics describes well the behaviour of the electromagnetic and nuclear forces when gravity is not important. But nobody has succeeded in constructing a unified theory which describes the early universe when all forces are equally important. Thus at 10^{-43} after the Big Bang, known physics break down. Even if physicists came up with a theory how could it be checked? To reach the kind of energy required would necessitate a particle accelerator extending to the nearest star!

Then there is the question of the initial conditions and the physical constants in the universe. You throw a ball in the air. The trajectory it follows depends on the location in space where the ball leaves your hand and the physical laws, in this case the law of gravitation, characterized by a physical constant called G. Like the ball, the evolution of the universe is determined by the initial conditions (such as its speed of expansion or initial density) and by about 15 physical constants such as G, the speed of light, the mass and charge of the electron, etc. We have measured these constants with great precision in the laboratory, but have not yet the slightest idea why they possess the values they have. We do not know, for example, why light travels at 300,000 km/s.

JUST A BUBBLE

The surprising discovery is that these physical constants have been fine-tuned to an extraordinary degree. Change them ever so slightly and we would no longer be here to talk about them. Will we ever have a theory capable of explaining this amazingly precise fine-tuning of the physical constants and initial conditions?

One possible explanation is that our universe is just a bubble among countless others bubble-universes. In these universes, all values of physical constants and initial conditions are allowed but they do not possess the right combination, and thus are all inhospitable and infertile. Only our universe has the winning numbers, and we are the prize. If, on the other hand, we opt for one unique universe, we have to postulate the existence of a Great Architect who constructed a universe fit for life.

Which possibility is more likely? We may never know. But should we stop searching and asking questions. I don't think so. Human beings will never be able to resist the urge to piece together the notes which nature sends to reconstruct the universal melody, even if the melody never yields its secret.

TRINH Xuan Thuan

Professor Trinh teaches astrophysics at the University of Virginia and specializes in the study of extragalactic astronomy.

THE GREATEST LOTTERY EVER PLAYED

We need all the pieces to put together the giant jigsaw puzzle of our past, but some of them no longer exist.

I am a paleontologist. I deal with the so-called "soft" historical sciences – the ones that cannot always be tested in a laboratory such as evolution, cosmology and geology. These are the sciences charged with the task of trying to explain or reconstruct the enormously complex events of history that in principle can only have occurred but once.

Reconstructing history means putting together and explaining detailed and unique sequences of events. The key to this is contingency, which is not the same thing as randomness. The main principle or claims of historical contingency are that when you try to explain a result in a historical sequence you must do so by looking to the antecedent states – what went before.

The interesting thing about those antecedent states is that none of them had to unroll exactly as they did, and so you are always faced with the possibility of numerous conceivable pathways. That is, from any starting point, history could cascade in thousands of directions based on tiny differences that no-one would view as significant at the moment, but which have major effects hundreds of steps down the line. If, for example, you rewound a tape recording of life's history, erasing everything that actually happened except the start, and then let it play again, you would get a completely different outcome. And the chance that outcome would include a self-conscious being capable of asking "what do we not know" is vanishingly small.

EXPLAINABLE, NOT PREDICTABLE

The message of historical contingency is not that it is random and peporative or, in the vernacular sense, inexplicable. Historical sequences are perfectly explainable. But they are not predictable. We are necessarily in ignorance of the future because there are too many potential pathways that are equally consistent alternatives from any current starting point, and that for several reasons. One of these is chaos theory which is a deterministic account holding that since the tiniest, unmeasurable differences in starting points may yield markedly different results later on - you're not going to be able to predict. And I suspect that there is a fair amount of genuine ontological randomness as well entering into the non predictability of historical sequences.

SEARCHING FOR SUPERIORITY

This should contain some lessons on humility about our own role in nature. Because we Homo sapiens are not the result of a predictable process. The notion that evolution means predictable progress leading sensibly to some self-conscious form is nonsense, and the result of some Western prejudices and progress metaphors that have dominated our discourse since the 17th century. It happened to turn out that way, and we are very happy that it did. It's explainable. It makes sense. But any one of a thousand other alternatives would have yielded just as sensible an Earth. Most of those alternative Earths though, would not have included us.

That important element in the history of life needs to be taken seriously. The early stages of the great Cambrian explosion 530 million years ago for example, were marked by a massive overshoot of diversity, relative to the few surviving lineages today. Most didn't make it, and the paleontologists searching for the basis of the predictable superiority of the winners, have so far had no success.

To take one example. The largest and oddest of the organisms from the Cambrian period is the Pikaia (see illustration by Marianne Collins, reprinted courtesy of Norton & Co). It is the first known chordate, which makes it our distant ancestor. It wasn't the only chordate, but given that most of the other groups died out and we don't know why, and given that this is not one of the more conspicuous survivors of the time, I would imagine that most replays of the tape of life would lead to the excision and death of Pikaia and its lineage. And that's all it would have taken to wipe the entire vertebrate story out of the subsequent history of life. We wouldn't be here and neither would the hippos nor the seahorses.

Although ignorance of non-predictability teaches us a fascinating thing about nature, there is one unfortunate side to not knowing in the historical sciences that makes things a little but worse than a certain kind of not knowing in the more prediction-based physical sciences. If there is a very poor historical record, it is difficult to know how things were, and that can raise problems that simply cannot be answered. The evolution of the human language, for example. We would very much like to know and understand it, because we sense that language is central to human nature. But for much of the history of human language there were no records. It's not a question of not having found it yet – it's simply not there.

GONE FOREVER

If the evidence is gone, you're really stuck. Given the poor state of the fossil record, paleontologists are perhaps more aware of this fact than any other profession. That is why scholars are so sensitive to the preciousness and need to preserve archives. That's what makes the destruction of the ancient library in Alexandria such a tragedy. Once the records are lost, they are gone forever. In my field the same can be said about the loss of species.

I think, therefore, that we should see the unpredictability of history and the need for knowledge of antecedent states as a gift to scholars, because it provides our best argument for research, for discovery and for conservation.

Stephen Jay GOULD

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AIDS: REFUGE IN IGNORANCE

We delude ourselves into thinking that the light at the end of the tunnel is daylight. In fact, it is the headlamp of an onrushing train.

In 1978 when the World Health Organization set the goal of "Health for All by the year 2000", AIDS and the HIV virus had not been discovered. Yet by the time the first cases of this strange new syndrome were being described in 1980, HIV had already been spread across several continents in epidemic proportions.

Over the past 15 years we have accumulated vast amounts of knowledge about HIV. We now know how to prolong the lives of AIDS patients. We also know how people can protect themselves against the virus. And yet HIV continues to infect some 6,000 people daily. By the end the century the number of people who have carried the virus could reach 40 million.

The fact is that our steadily growing knowledge has mainly helped to define more clearly what we do not know... and what we do not want to know.

These questions arise in part because of the particular genius of the HIV virus: the way in which, to ensure its own survival, it targets and destroys the human immune system; the way it keeps changing genetic characteristics which makes it difficult in the long-term to develop an effective vaccine; and the fact that it involves sex and blood - which most societies relegate to the sacred or the taboo.

HOWS AND WHYS

We still don't know, for example where or how the virus originated. Was it transmitted from other primates to humans? Are there other existing human sub-types of the virus apart from HIV1 and HIV2? Is it possible to develop a vaccine? Why are some people more resistant than others?

Even more difficult to answer are the widening range of sociological and ethical queries. Should obligatory AIDS testing be introduced? This has not proven effective for prevention, and more often feeds people's fear and the discriminatory attitudes already present in society. Yet this question, which is essentially a human rights issue, is sure to be increasingly posed.

And then, how can we convince people to protect themselves? We know, for example, that condoms can prevent the sexual transmission of HIV/AIDS. But people generally, still refuse to consistently use them. The reasons range from the cultural to the financial, but our research has shown that some people would literally rather die than use this simple and effective means of protection.

It took many years for some countries to admit they even had a problem with AIDS, let alone encourage any public discussion or prevention education. People still focus on the transmission of the virus by mosquitoes, which has never been documented, while they shy away from public debate about sexual transmission which is the real problem. Why this reluctance? The fact is that we don't know enough about human sexuality and cultural attitudes towards sex to provide the answers to these questions.

Refusing to acknowledge the problem also means closing our eyes to the consequences. In some African countries 70 percent of hospital beds are already occupied by AIDS patients. Their numbers will surely increase but will there be adequate social and medical facilities to deal with them? What will happen to their orphans?

We are already seeing in some countries a "generational gap" brought about by the deaths of AIDs patients - usually young people in the prime of their lives, members of the workforce, taxpayers, parents. What will be the impact of this gap when the death toll climbs to the tens of millions? Most of the projected 40 million people infected with HIV by 2000 will be young Africans and Asians. What will their loss mean to the economic and social development of their countries?

We have estimated that a mere $20 billion needs to be spent over the next five years to implement the most basic of prevention programmes in the developing world and slow down the rate at which HIV spreads. Only a fraction of that has so far been forthcoming. In spite of several "Summits", political leaders have been unable or unwilling to link their political commitment with the resources required. Why, when so much evidence exists to show us just how devestating the impact of AIDS will be in the 21st century?

The AIDS epidemic is as much a model of knowledge forging through the barriers of ignorance as an example of denying knowledge and taking refuge in ignorance. We must admit that we have a tragedy of planetary proportions because of what we do not know as well as because of the denial of what we do know: the extent and the spread of the epidemic, the reluctance to carry out the interventions necessary to prevent it, and the lack of moral commitment and financial resources to stop it.

Dorothy BLAKE

Dr Blake works with the World Health Organization as the Director of External Coordination and Mobilization for the Global Programme on AIDS.

THE EVIL OF HIGH INTEREST RATES

"The law of the market-place leaves us no choice", the politicians are always telling us. But they don't like talking about the social and even cultural fallout from applying this doctrine.

The more science advances, the more it realizes it can never explain everything, wrote the French intellectual Claude Levi-Strauss. In other words, we don't start to see the extent of our ignorance until we know a bit more about it. So I'm going to tell you how, by nudging at a few half-open doors, I've understood the significance of the relationship between economy and society, at the same time as I saw the difficulty of depicting it as a mathematical model, the only really recognised way of doing it.

First I want to stress the widespread, insidious, structural - even cultural - effects of overly-high interest rates. They deeply affect how everyone, how whole societies see the future. The interest rate is really the rate at which people measure time, the gauge of the value we give to time. It's also a precise measure of how fast our future depreciates. When rates are high, we're more impatient. We live more for now. We swap the future for the present. Moneylenders count on this. Their customers are so overwhelmed by their problems, that they've lost their future. They have to have money now, whatever it costs, or else they might never have a future.

SHORT-SIGHTED

It's as if interest rates decree how short-sighted a society is at any given moment. The higher they go, the less a society can see beyond its nose and the less important future possessions become. Without pushing the analysis too far, they seem to have something to do with the fading of the age of ideology. For isn't ideology a generous dream of the future, a value system which means you believe in humankind and its improvement?

In a social context, economic actors are going to become selfish and keen to take advantage of the moment for maximum personal profit. Workers especially are going to try to use their negotiating power to get the most they can as quickly as possible. So the evaporation of the future imperils a social contract - the whole body of tacit agreements which have curbed great differences in pay in the labour market.

In market economics, full employment is when different kinds of work are paid according to their productivity (highly for high and poorly for low). The problem comes when productivity varies so much that the least productive don't earn enough to survive.

Market theory's answer to this is absurd: full employment is guaranteed for those who survive. There is of course another solution. In a market economy, full employment can be obtained if the range of salaries is smaller than the range of productivity. So the wage structure is implicitly adjusted by the best qualified workers directly subsidising the least skilled. Take the example of a company that requires cooperation between two employees whose productivity corresponds to a salary of 100,000 and 1,000 francs respectively per month. Without intervention by the State the lower paid employee could not survive. He would thus not agree to work and would be pushed to earn his living by other means such as criminal activities for instance. This could be avoided if the higher paid employee accepted to earn only 95,000 francs, allowing the company to pay the other worker 6,000 francs.

This is reasonable because it's hard to measure individual productivity, as that involves cooperation between many kinds of workers, whose productivity is more collective than individual. The range of salaries is also determined by tacit social agreement, varying with different cultures, as by economic factors. This is why the wage structure can vary greatly among countries with comparable standards of living.

But the social contract has been changed. Witness the "liberal" revolution of the 1980s, especially in Europe, where cultural, social and political traditions seem to have changed the most. From being a personal task in a collective whole, work has become a matter of individual achievement measured more and more just in monetary terms. The scramble for the most money in the shortest time has destroyed cooperation, and boosted unemployment. If, for example, the more highly paid of our two sample employees demands that his salary be topped up to the previous level of 100,000 francs, and if there exists a minimum wage, the lower paid colleague will be sacked. The minimum wage thus becomes a constraint, because it is considered too high to maintain the employment of the least skilled workers.

The greater chance of being jobless means for a worker that his links with a firm can be severed at any moment. If you add in the belief that a person will probably be obliged to have several professions during his working life, and then add high interest rates, you can see how economic actors are trying to get the biggest and quickest advantage from their activities. Work and its dreams of the future is becoming just a commodity to be sold to the highest bidder.

Jean-Paul FITOUSSI

Economist, President of the French Institute for the Study of Economic Conjuncture, OFCE.

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HISTORICAL TRUTHS AND OTHER FALLACIES

History won't hand us the keys to the future. But it can help us decode the present, and it takes away our self-importance by showing us how much cultures depend on one another.

What's the use of history? Sometimes you want to say: *None at all!*

It's accepted, though, that historians write history to help us avoid the disgusting behaviour of our forbears. They act as cleansers of society – vaccinating humanity against doing new evil.

But it's very hard to see how learning about the past has helped us this century in which we have broken all previous records with so many massacres and disasters in such a short time and space. Hitler and Stalin fed off the past. It leads to everything, including Auschwitz and the Gulag.

History appears as a huge and complex collection of facts, examples and actions which, when detached and separated, can teach an extremely wide range of lessons. Because it isn't an objective science, it can't come up with laws, leaving us left to interpret it how we like. So *"lessons of history"* can be twisted every which way. Whatever your theory, doctrine or immediate need, you can find what you want in the past. It is not a manual for action, but just an encyclopedia of contradictory wisdoms.

PRETENTIONS AND DREAMS

Yet from positivism to Marxism, the 19th century has been the great source of the illusion that humanity is inevitably and urgently moving forward. Hegel was the high priest of this big idea, that humanity is heading for reconciliation with itself. It was called "dialectics" and encouraged people to excuse the most dreadful crimes, because they supposedly gave birth to a new positivity and a happy historical ending. The arts as well as social and political sciences were sure to become exact sciences and rule the world. There'd be no more politics.

We've dropped these pretentions and dreams. Historians can now be certain about events. That kind of archival or clerical work doesn't teach us anything deep, it just sorts out a little of the chaos and the passions of the past. At the higher level of explanation and interpretation, instead of the historian, we now find just a lot of jostling speculation.

History, because it's about humans, is ambiguous and inexhaustible. Raymond Aron so rightly said. So does that mean history is bunk? No, but it does demand humility from the historians. Their work can never be complete, their conclusions never definitive and their interpretations never beyond debate.

MEDIEVAL ENGRAVING: THE TRIALS OF THE HUMAN CONDITION (Bibliothèque cantonale et universitaire de Lausanne).

History, defined as knowledge of past life, help us to understand today's world. Like a town where a Roman cathedral, grand avenues, skyscrapers and suburbs rub shoulders, human beings are surrounded by material things. But we're also surrounded by beliefs, folklore, superstition, packaged ideas and institutions whose origins are too old to know. The historian helps us make sense of our habitat.

Another use of history has recently been brought to light with a single word: historicity. This means that, aside from what is written in stone or buried beneath the earth, human behaviour and attitudes towards illness, suffering, death and different age groups aren't unchanging. They come and go for a certain time.

Historicity is about learning that things that are haven't always been so, that what doesn't exist now, might have existed once. That new things aren't always new and what we think is eternal hasn't been around very long after all. This allows us to get our bearings in time, to assess an event, to spot the threads of continuity and see where they break.

INTERDEPENDENCE

Another concept seems to show the use of history too: otherness. History isn't just my history or the history of my friends, but the history of other people. History literally takes away our self-importance by showing us how much cultures and civilizations depend on each other. It's a sort of humanism, an introduction to tolerance and respect for others. It helps me keep in touch with the ideal of humanity through knowledge of all its permutations.

The limits of historical knowledge aren't just about not knowing great chunks of facts about centuries and millenia gone by. Even if these limits didn't exist, history still wouldn't give us the keys to our future. We can never know that future. There isn't any determinism, or *"destins"*, that chains us to our family trees.

Human societies are free to go in any direction, depending on the choices men and women make. Nothing is fixed. Knowledge of the past will never protect us from disaster. But it does enable us to build the future on the basis of human freedom and creativity.

Michel WINOCK

Mr Winock is a historian known for his works on political movements and parties of the 20th century.

UPCOMING ISSUES :

- Organizing International Relations :
  50 Years after the UN Charter (June 1995)
- Fundamental Values Across Nations
  (September 1995)
- Public Opinion and Electoral Behaviour
  (December 1995)

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GETTING IN ON THE ACTION

Women must not be left behind by the communications explosion, concludes UNESCO conference.

The women's movement has set its sights on the media. At the United Nations Fourth World Conference on Women, to be held in Beijing next September, communications will be included for the first time in the Platform for Action to be decided by the 30,000 to 40,000 participants.

Why now, especially when there are more women than ever working in the media? Is this not a battle that has been largely won?

No, according to the 170 media professionals and communications experts from almost 60 countries who attended the UNESCO organized conference, "Women and the Media: Access to Expression and Decision Making", held in Toronto (Canada) from February 28 to March 3.

The explosion in communications over the past two decades has made the media an all-powerful tool for sweeping social change – or for maintaining and reinforcing the status quo, a tool that could give women access to knowledge and information that would help improve their daily lives and help present a more realistic picture of their multiple roles and contributions to a changing world.

To achieve this the participants argued that women must have a bigger say in the media. For despite the progress in many parts of the world over the past 20 to 30 years, the conference concluded that the stereotypes of *"wife, mother and sex object"* still dominate on television, radio and in the press.

THE LION'S SHARE

For the journalists, producers, managers and academics in Toronto, this is due to the fact that men still control the media: they are the *"media moguls"*, they dominate the managerial and editorial ranks of media outlets and they still have the lion's share of newspaper by-lines and TV and radio airtime.

"Our studies of Dutch television showed that twice as many men appear on screen as women. In current affairs and news programmes the ratio is one woman for every four men. The men not only host the programmes, but most of their guests and the experts they interview are male. It's the same picture for radio where there are three times as many men as women on the air." Dutch researcher Dorette Kuipers told the conference.

"A study of TV and radio news in New Zealand showed that only about 11 percent of radio and television stories have anything to do with women," said Shona Geary from the New Zealand Broadcasting School. *"The majority of these present women as the victims or perpetrators of violent crime. Then come the human interest stories, that, in our study, included U.S First Lady Hillary Clinton's new haircut and a shopping expedition by the wife of the visiting Australian Prime Minister."* Similar figures were presented for women's coverage in India's media, indicating that cultural differences wielded little influence as far as media is concerned said Urvashi Butalia of the Kali women's publishing house in New Delhi.

SOCIAL REALITIES

In many respects, this picture reflects social realities. After all, who are the newsmakers? *"News feeds off power, authority and unresolved conflict, and most of those in positions of power and authority – the politicians, the 'captains' of industry, the generals and the university professors, for example – are men,"* said Shona Geary. *"And many reporters, programme hosts and directors, unless they know someone in particular, simply don't think of seeking out a woman expert, or commentator."* said Kuipers. Ms Kuipers works to rectify this by presenting her research to programme directors, journalists and the like, and alerting them to possible female sources of information and expertise.

While this may be possible in the North, the situation is very different in the developing countries. Female illiteracy is a major problem in many of these countries, and generally excludes those who cannot read or write from taking part in the media. *"However, this doesn't stop them from being media consumers. The rural people of Mali for example are totally dependent on radio for information and treat what they hear as if it were the gospel truth"* said Fatoumata Sire Diakite, Director of the magazine "La Voix de la Femme" (Women's Voices). *"This means that there is a real opportunity to bring women into*

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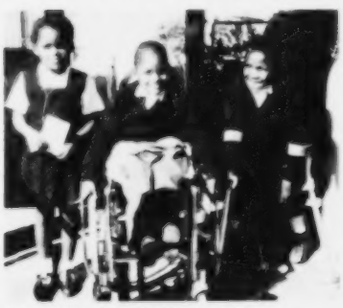
Hundreds of roses were sold at UNESCO on International Women's Day, 8 March, by a group of women wanting to help Tembaletu School, the first South African institution for **PHYSICALLY DISABLED BLACK CHILDREN**.
Founded in 1974 with five pupils, it now offers pre-school and primary education



TEMBALETU SCHOOL TEACHES CHILDREN FROM 3 TO 18 YEARS OLD (Photo UNESCO)

as well as physiotherapy and occupational therapy to 110 children.
More than 12,000 FF (about $2,400) was raised through the UNESCO Co-Action Programme to provide the school with textbooks, wheelchairs and other special equipment.

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Celebrating ***INTERNATIONAL WOMEN'S DAY*** on 8 March, UNESCO opened the doors to several womens groups preparing for the World Conference on Women (Beijing, September 1995).
Women involved in the performing and visual arts, music and politics also participated.
Moufida Tlatli's film *"The Silence of the Palace"* was shown on 9 & 10 March which gave an inside look at the life of a young girl raised in the servants' quarters of the Bey Palace where fear and submission reign supreme.

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development. But the mainstream, male dominated media tends to maintain the status quo, to reflect the traditional place of women in our society, which means defending such practices as excision and early marriage."

Presenting a more accurate picture of women's roles and values, and incorporating them fully into the development process thus requires a conscious effort and a change of vision.

In many parts of the world, women themselves are taking up this challenge. In Canada, for example, the Women's Television Network (WTN) is now broadcasting on cable TV. *"We make programmes for women, by women and about women, and our viewers are saying 'bravo'!"* says WTN's CEO Linda Rankin.

In Moscow, the independent Radio Nadezhda is also run by women for women. It is now one of the top 10 radio stations in Russia and, boasts director Irina Korolyova, *"half of the audience is now made up of men!"* The station programming mixes chat shows and music and tries *"to give people a positive emotional charge"* says Korolyova. *"We air programmes that inform and help people in their daily lives - programmes on education, health and family planning for example, or programmes telling women how they can start up small businesses."*

To spread the message further afield, and breach the walls constructed by the mainstream media, the participants drew up a blueprint for action, which will be presented at the United Nations Fourth World Conference on Women in Beijing (September 4-15). The "Toronto Platform" includes proposals for media enterprises, organizations and professional associations, educational and media training institutions and governments, for improving the participation of women from all societies and cultures in all levels of the media and increase awareness of gender issues.

The Toronto meeting, which was organized in close collaboration with the Canadian National Commission for UNESCO, capped a series of seven preparatory regional workshops held throughout 1994, and will constitute one of UNESCO's major contributions in Beijing.

"Women have become a force to be reckoned with and the time has come for media to recognize their contribution" said Gertrude Mongella, Secretary General of the Beijing conference. *"More than 30,000 people are expected to turn out for the September meeting, making it the UN's largest conference,"* she pointed out. *"But how will it be covered by media around the world?"*

Sue WILLIAMS
Toronto (Canada)

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With an exhibition and concert, UNESCO partook in **TUNISIAN DAYS**, part of the activities in France's artistic season dedicated to this North African country. The exhibition *"Frames of the Medina,"* shown at Headquarters from 27 February to 15 March, presented a selection of works recounting the historical links spanning several generations between Tunisian artists and their medinas. On 9 March, a concert featuring *"Takht"* (medieval Arab music) was presented by a group directed by Anouar Brahem who plays the "oud" (lute) in attempting to revive the Arab music tradition by intertwining diverse forms of expression.

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European students have come up with a continental motto, ***"LIBERTY, UNITY AND DIVERSITY"***. On 14 March, a jury presided by UNESCO Director General Federico Mayor selected the slogan out of about 300 suggestions made by students from French primary and secondary schools and colleges.
The young people were also asked to choose the *"Statue of Liberty of Europe"* to be erected in 1996 in a European city. Other European countries will also participate in the operation *"One hundred million youths"* aiming to promote awareness and respect for other cultures and human rights.

STATUE DESIGNED BY R. SEGUINEAU

DOLLARS AND SENSE

Education is the key to economic and social development - a lesson learned at the Copenhagen Summit through UNESCO's initiative.

As international attention focused on the World Summit for Social Development (WSSD) in Copenhagen, leaders of the nine high-population countries in the developing world quietly met to find ways of providing education for all by the year 2000.

"Instead of arguing about words, they came up with concrete proposals," said Victor Ordonez of UNESCO's Basic Education Division in referring to this *"side summit"* set up by the Organization on 10 March as a follow-up to the New Delhi Summit in December 1993 and the Education for All (EFA) Conference in Jomtien (Thailand), March 1990. It also served as a reminder to the Social Summit that education is one of the keys to development.

"Education increases economic productivity, enhances social and cultural awareness, promotes health and child survival and slows down population growth," said Mr P.V. Narasimha Rao, India's Prime Minister and chairman of the side summit. *"This is the prime reason why we are here today, reaffirming our conviction that education must occupy a central place on the agenda for social development."*

These nine nations - Bangladesh, Brazil, China, Egypt, India, Indonesia, Mexico, Nigeria and Pakistan - account for more than half of the world's population and about 70% of its adult illiterates whose number has dropped from about 1 billion in 1990 to 885 million today. The E-9 countries, as they have come to be called, have about 85 million out-of-school children, but if current efforts continue UNESCO expects this number to drop to 27 million by the year 2000.

"That will be one of the concrete benefits of EFA," said Ordonez. *"Fifty-eight million more kids in school."*

THE "TENTH COMMITMENT"

While discussing progress made and future plans, E-9 leaders also managed to exert considerable political influence on the Social Summit.

"These countries took it on themselves to ensure that education is not seen as a competing end but as a means to development," said Ordonez while stressing that education should not be looked upon as a public expense but rather as an investment. A practical approach but one which is just beginning to be recognized. For example, nine commitments were originally proposed for the Final Declaration of the Social Summit. But on the initiative of UNESCO and E-9 leaders, a Tenth Commitment concerning education was not only included but pushed up to the sixth place in the final document. This commitment insisted that education play a central role in strategies designed to eliminate poverty, create jobs and prevent social exclusion.

The word *"empowerment"* could have been the summit's mantra as it rang throughout the debates and hallways. Empowerment of the poor as the key to increasing participation in civil society and the democratic process. Empowerment of women to enable them to achieve social, economic and political equality. But above all, empowerment means education.

Education *"is the key to creating equitable economic growth, a sustainable environment and a democratic and peaceful society where women and men play equally*

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"WE WANT TO FLY, GIVE US WINGS!" exclaimed a young Pole attending the International Encounter of Students and Teachers held at the United Nations in New York, 28 February to 6 March. Marking the 50th anniversary of the UN and UNESCO, this meeting enabled 50 students and teachers of the Associated Schools Project to not just visit the UN but see it in action. Despite their diverse backgrounds, the young people shared common visions of the world which they characterized as *"unequal, selfish, overwhelmingly complex, violent, insecure and hopeless"*. The students specifically asked that education focusing on world problems be made an integral part of curriculum.

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Looking to the World Summit for Social Development, the bulletin EFA 2000 stresses the role of basic education in social integration. ***"PUTTING PEOPLE FIRST"*** highlights the stakes involved and uses relevant data to illustrate the ways in which basic education can reduce infant mortality, slow down population growth, improve productivity and bolster the battle against poverty, unemployment and social exclusion - all of which were discussed at the Summit.

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important roles", said UNESCO Director-General Federico Mayor noting that women make up two-thirds of the world's illiterate population. He added that *"if the definition of education is broadened beyond just knowing how to read and write to also include being knowledgeable about social and political matters and possessing professional skills, the number of truly educated women in many countries becomes infinitessimally small."*

EXCITEMENT AND AMBITION

E-9 leaders spoke with excitement of their ambitious plans. Mexico is preparing to expand its Solidarity Satellite System now hooking up 10,000 rural schools to a national education programme.

In Indonesia, the Ministry of Education and Culture has joined forces with the military in trying to enlist another 5.8 million participants in its National Literacy Campaign. The results so far: a drop in the country's illiteracy rate from 14.6 % in 1990 to 12.6 % in 1994.

India is aiming to increase government spending on education from its current 3.7% of GNP to 6.3% by the year 2000. The National Literacy Mission now has 7 million volunteers working with about 45 million people.

In Bangladesh, the first five years of primary school are free for all children with ten free years offered to girls to try and increase their enrolment. A programme providing cereal rations to low-income families as an incentive to send their children to school now reaches about a quarter of the country. Primary school enrolment went up to 87% in 1994 from 76% just three years earlier.

But while sensing the commitment behind these plans, some were left wondering just how reasonable they are. *"It's not up to us to say the targets set (by national leaders) are inaccurate,"* said Ordonez of UNESCO, *"but we do carefully monitor the progress they have made on a yearly basis which we tell the world about by publishing reports."*

But Ordonez also warned against putting too much faith in statistics concerning literacy and enrolment stressing that *"there is more to learning than schooling."*

Without being pessimistic, Ordonez outlined four basic problems facing E-9 countries. First, there is the population race in which countries like Pakistan or Egypt just don't have the facilities to accommodate the enormous numbers of children who should soon be starting school.

National leaders must also ensure that the energy focused on improving primary school enrolment does not work to the detriment of higher education. *"If you neglect higher education, you will have a workforce lacking in the needed managerial skills,"* said Ordonez. *"In other words, you're creating a giant sweat shop."*

Without continuity and stability in government, even the most comprehensive educational projects risk being compromised, said Ordonez pointing to Nigeria as a *"classic example"* in which a range of literacy projects have been hampered by political turmoil.

Yet despite these obstacles, some E-9 countries such as India are not so far off from achieving "Education for All." Mexico is also close to reaching the EFA goal, although, serious discrepencies remain with regard to indigenous students. China has basically achieved universal primary education with an enrolment rate of 98.4% (97.7% specifically for girls) compared to about 60% in the 1980s.

Legislation is widely considered a key tactic in enforcing educational commitments. Pakistan is now considering legislative steps to assure that *"a minimum of 3% of GNP"* is spent on education, according to Shahnaz Wazir Ali, assistant to the country's Prime Minister. In 1994, Indonesia made nine years of education compulsory. It is worth noting, however, that although primary education has been obligatory since 1984, there is considerable concern about the quality of education offered.

"Legislation is largely symbolic," said Ordonez. *"It won't get the children to school each morning but it does provide a sledgehammer for education ministers to drive home the message when governments are deciding on their budgets."*

With the year 2000 approaching, some argue that "Education for All" makes a better slogan than a target. But while recognizing the need to step up efforts, UNESCO and E-9 leaders led the Social Summit to read the writing on the wall: education is essential for development.

Amy OTCHET, with Andy RADOLPH in Copenhagen

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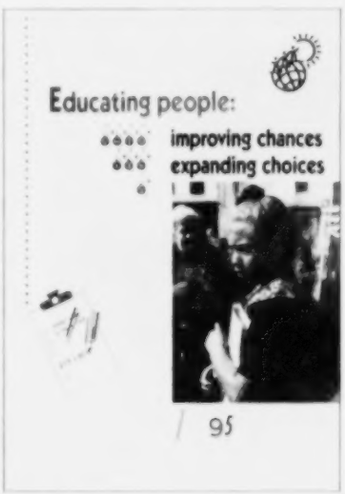
FACTS AND FIGURES ABOUT BASIC EDUCATION *"Educating people improving chances, expanding choices"* is the title of a new brochure presenting charts and statistical graphics concerning



the current state of basic education around the world in stressing the link between a population's level of education and social development.
A chart of educational and socio-economic indicators for 126 developing countries is also presented.

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"SEARCHING FOR NEW DEVELOPMENT STRATEGIES", the first issue of a series of policy papers published by MOST (Management of social transformations), takes an interesting look at the Copenhagen Summit noting that when it comes to social development around the world , *"the minuses of the balance-sheet outweight the pluses since the period following the Second World War."*
Questioning who should be the real benificiary in the search for new development goals and methods, a reference is made to Alice in Wonderland when she politely asks the Cheshire-cat where she was to go. *"That depends a great deal on where you want to get to,"* answered the cat.

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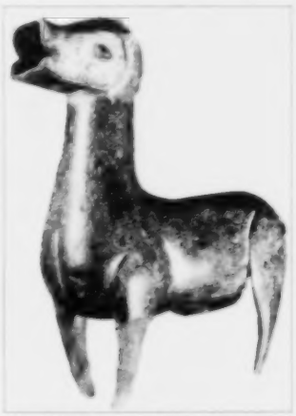
The cultural and touristic project "**THE LEGACY OF AL-ANDALUS**" – a name given by the Arabs to the Iberian peninsula – was unveiled at UNESCO on 7 March. Organized on the initiative of the Spanish institute Sierra Nevada 95 with UNESCO's support, it encompasses a



BRONZE STAG FROM MEDINA AZAHARA

dozen historical routes across Europe and into North Africa. As well, 15 thematic exhibitions will be held in Andalusia's larger cities. A series of related publications is also planned for the project which is intended to evoke the culture of Al-Andalus which strongly influenced Europe and crossed over to the Americas through the Spanish conquistadors.

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RENZO PIANO was named a UNESCO Goodwill Ambassador on 24 March. The Italian architect has worked closely with UNESCO for 15 years and will supervise the restoration of the Organization's Headquarters. Piano, who described his work as "*art at the boundary where architecture, tradition and sociology meet*", is among the most prolific architects in the world. Some of his more famous projects include the Pompidou Centre in Paris and the Kansai International Airport in Osaka (Japan).

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ROCK ART BE DAMMED ...

Conservation gets complicated after prehistoric drawings are discovered during construction of Portugal's second largest dam.

From the decorated surface of the rocky cliffs in the Valley of Foz Côa, 200 centuries contemplate work in progress on a dam threatening to engulf the valley.

A veritable prehistoric zoo carved 18,000 to 20,000 years ago, according to estimates by Jean Clottes, President of the International Committee on Rock Art, was recently discovered on the cliff faces in north-eastern Portugal: hundreds of horses, aurochs, deer, and other horned animals spread over more than 10 kilometres.

When construction began about a year ago on the country's second biggest dam, the discovery of several of these carvings was called to the attention of the Electricity Company of Portugal, responsible for the project, and the Institute of Portuguese Heritage. The reaction was mild.

But last September, archeologists found more. "*We are still not sure just how many drawings there are*," explains Georgie Dafe of UNESCO's Division of Physical Heritage. "*Originally, there was talk of 80 and then at least 300. There could be a lot more. It's difficult to count because some have already been submerged under water.*"

A FRESHWATER ANIMAL? (The drawing has been outlined. Photo UNESCO)

"*This state of affairs shows just how important it is to do preventive prospection before major works are undertaken*," insists Clottes.

The "*affair*" has fed an angry debate between advocates and opponents of the dam project. The former refuse to sacrifice the economic interests of the region and some $30 million already spent. The latter claim that submerging one of the world's major sites of outdoor rock carving is nothing short of criminal.

"*The issue is not whether to build the dam but how to preserve the drawings*," insists Dafe. According to Clottes who went to Portugal last December, there is no one "*good solution*". Abandoning the dam, which is what most Portuguese archaeologists want, would not automatically mean saving the drawings. For that, the site would have to be restored to its original state in 1983 before the construction began of a smaller dam which has already submerged many of the drawings.

OUT OF HUMAN REACH

Moreover, there is now fear of irreparable vandalism, prompting Clottes to suggest that submerging the carved rocks might be the lesser evil. He points to the floods of curious visitors, bound to flow into the area if the intense media coverage continues. Concern is heightened by the fact that the drawings are spread over such a large area, making protection difficult. Dafe explains that "*it is not unusual for people to use crayon or paint to outline the drawings in order to take better photographs*".

Nonetheless, putting the paintings "*out of reach of humans*", to use the expression of Clottes, by covering them with 100 cubic metres of water, is not a remedy either. No one knows what kind of damage might be caused by submerging the rocks under so much water. "*In cases where immersion presents too great a risk, we must envisage displacing the carved rocks*," says another group of UNESCO experts who visited the site from January 29 to February 4. This group also proposes "*undertaking a feasibility study for a museum on the site*" to house information on the valley.

Weighing up the pros and cons will obviously take time. Thus, in early March, UNESCO asked the Portuguese authorities to "*suspend work on the dam to facilitate indispensable studies*". This will take about four years after which an "*International Scientific Committee*" will hand down its "*considered opinion*".

Sophie BOUKHARI

AN EYE ON THE ENVIRONMENT

The Mediterranean gets a little greener with an environmental observatory in Rabat, Morocco.

Morocco has just created the first "green" observatory on the southern shore of the Mediterranean. Officially inaugurated last December in Rabat, the National Environmental Observatory of Morocco (ONEM), launched in August 1992 with support from UNDP and UNESCO, has been operational for more than a year. It is part of a network of observatories being set up under the "Blue Plan" for the Mediterranean, sponsored by UNEP and the European Union.

Two years after the UN Conference on the Environment and Development (Rio de Janeiro, June 1992), "the winds of Rio" are still whistling around decision-makers. "*The environment has become a strong drawing card for international financing,*" explained Mohammed Skouri of UNESCO's Division of Ecological Sciences. "*Sometimes, it is even essential for obtaining aid.*"

The Moroccan authorities, in any case, seem to attach increasing importance to the sector, judging, for example, by the creation last March of a Ministry of the Environment, of which ONEM is a part. Environmental issues were previously handled by an under-secretariat of state attached to the Ministry of the Interior.

THE GREAT CHALLENGE

"*A tool for information and aid to decision-makers*", ONEM will issue a biennial report on the state of the environment to be used in drawing up a stategy for limiting its degradation. The challenge is great, especially since Morocco's natural heritage is so exceptional. Its biodiversity is the richest in the Mediterranean basin, after the Anatolia region in Turkey. However, a third of about 40 identified terrestrial ecosystems with more than 4,000 plant species, 550 vertebrate species and thousands of invertebrate species - are severely degraded or threatened with extinction.

Extremely diverse in topography, soil and climate (Morocco is the only African country to have coastlines on both the Atlantic and the Mediterranean), these systems are subjected to water and wind erosion. This fragility is accentuated by an annual population growth rate of about 3%, poor management of resources and the industrial infrastructure as well as rapid and uncontrolled urbanization.

DEFORESTATION THREATENS THE WATER SUPPLY. (Photo UNESCO/Bohm)

Estimated at nearly $50 million, the annual cost of environmental degradation (deforestation, silting up of dams, reduced soil productivity, etc.) represents about 0.2% of the GDP. And this doesn't include high social costs: the drop in the quality of life, community disruptions and a heightened rural exodus, etc.

For now, the small ONEM team of geologists, geographers, agronomists, biologists, economists and sociologists is compiling and analyzing information from various institutions and ministries ranging from industry to tourism. It is also evaluating environmental aspects of development projects and producing a series of monographs to create more observatories.

ONEM is also drawing up an inventory of the biodiversity and desertification problems which, according to Skouri, "*affect three-quarters of the national territory, as is also the case in most North African countries*". Projects aimed at controlling chemical and toxic substances and creating a data base on coastal land uses are also underway.

The most difficult job, however, lies ahead. That is getting Moroccans to see life through green-coloured glasses.

S.B.

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LORD HOWE, the former foreign secretary who led Britain out of UNESCO in 1985, urged his government to return to the Organization on 22 March to mark the UN's 50th anniversary. He said that the departure "*was never intended to be a permanent step*" and that essential changes had been made, particularly those concerning financial management and the defense of press freedom.

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JOSEPH NEEDHAM, the man considered most responsible for adding an "S" for Scientific to the Organization's acronym, died on 24 March at the age of 94. Crusading for international scientific cooperation after World War II, the biochemist and sinologist convinced world leaders to make science part of the Organization's field of competence in 1943. "*Joseph Needham, perhaps more than any individual, marked the foundation and early years of the Organization,*" wrote Director General Federico Mayor in a cable of condolence sent to the Needham Research Institute in Cambridge (UK). "*As its first science director, he started UNESCO off brilliantly through his unique personal mastery of the intercultural elements of science.*"

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LOOKING AHEAD

The 146th session of the **EXECUTIVE BOARD** will be held at Headquarters, 16 May to 3 June, to examine the Organization's 1996-97 Draft Programme and Budget and Medium-Term Strategy for 1996 to 2001 which will be submitted to the General Conference meeting in October and November. About 40 specialists will attend a regional conference on **INFORMATION AND LIBRARY NETWORKS IN THE COUNTRIES OF CENTRAL AND EASTERN EUROPE** in Sofia (Bulgaria), 18 to 22 May. On the island of Chios (Greece), about 50 students from UNESCO Associated Schools will celebrate the UN's 50th Anniversary and the Year of Tolerance at a **CULTURE OF PEACE FESTIVAL FOR CHILDREN** planned for 20 to 25 May. **WORLD DAY FOR CULTURAL DEVELOPMENT**, observed throughout the UN System on May 21, will be marked at UNESCO with a symposium on "Culture and Agriculture". The steering committee for **PEOPLE AND PLANTS** will meet at Headquarters from 22 to 24 May. A symposium, exhibition, concert and film are all part of the activities planned at Headquarters from 1 to 8 June to commemorate the 150th anniversary of the birth of **KAZAKH POET AND PHILOSOPHER ABAI KUNANBAYEV.** From 13 to 27 June, the 18th session of the Assembly of the **INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION** (IOC) will review recommendations from a series of meetings, all taking place at Headquarters, dealing with algae blooms and the global ocean observing system (to be held 6 to 9 June) to studies concerning the Black Sea (7 to 9 June) and reports on the World Ocean Circulation System Experiment (8 to 9 June). The 28th session of the **IOC EXECUTIVE COUNCIL** will also take place at Headquarters on 12 June. The **MAB COUNCIL** (Man and the Biosphere) will hold its 13th session from 12 to 16 June at Headquarters.

OUR NEXT DOSSIER will consider the issues raised at the International Conference on **BIOSPHERE RESERVES**, held 20-25 March in Seville (Spain), intended to take a critical look at UNESCO's world-wide network of biosphere reserves by examining the obstacles currently hampering the programme and exploring possible directions for the reserves in the 21st century.